

### **REMARKS**

Applicants wish to thank the Examiner for the consideration given this case to date. Applicants have now had an opportunity to carefully consider the Examiner's action, and respectfully traverse the Office Action and assert that the claims, as originally presented, are in condition for allowance. Claims 36-41 have been added, incorporating subject matter from Claims 1-17. No new matter has been added. Claims 1-17 and 36-41 are pending.

### **THE EXAMINER'S ACTION**

In the Office Action dated January 10, 2006, the Office rejected claims 1-4 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Number 6,220,058 to *Koyama et al.* (hereafter "*Koyama*");

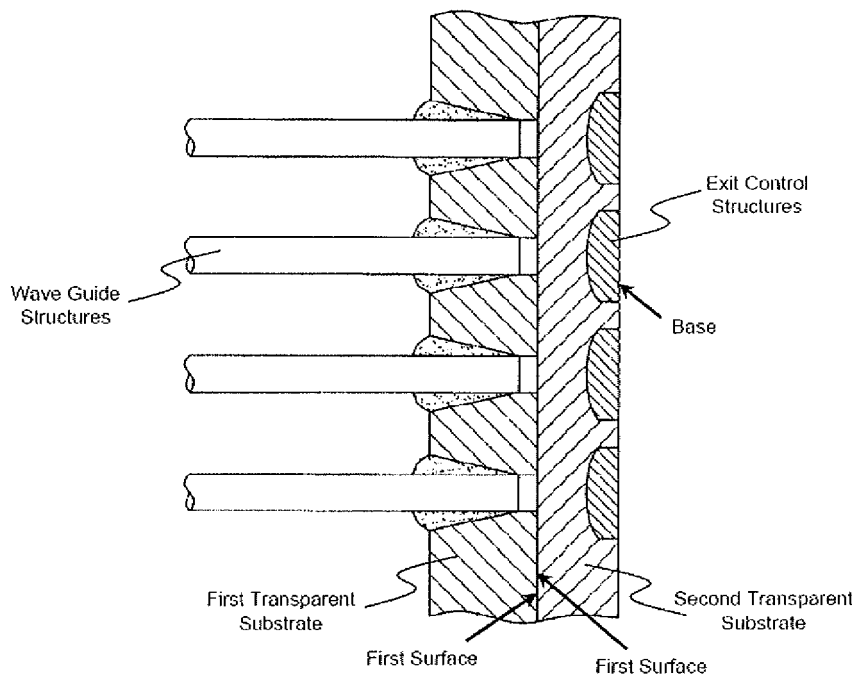
rejected claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over *Koyama*; and

objected to claims 7-17 as being dependant upon a rejected base claim.

### **REJECTIONS UNDER 35 U.S.C. § 102(e)**

Regarding claims 1-4, Applicants respectfully assert that the Office has not yet made a *prima facie* case of anticipation. In order to rely on a reference as a basis for a rejection, the reference must teach all of the claim limitations. (MPEP § 2143.03 citing *In re Royka*, 490 F2d 981, 180 U.S.P.Q. 580 (CCPA 1974)).

In using *Koyama* to reject claims 1-4, the Office relies primarily on Figure 20. Figure 20 is reprinted on the following page, annotated according to Applicants' understanding of the Office's rejection:



It should be understood that the above annotated figure does not represent *Applicants'* understanding of Figure 20 of *Koyama*, but is only meant to represent Applicants' understanding of *the Office's* interpretation of Figure 20. As will be explained below, Applicants, in fact, believe this interpretation to be incorrect.

Claim 1 expressly calls for first and second transparent substrates, each having a first and second surface, wherein "the first surface of the second transparent substrate is facing the first surface of the first transparent substrate." Applicants understand that the Office has interpreted the left substrate of Figure 20 of *Koyama* to be the first transparent substrate, and the right substrate to be the second transparent substrate, as shown in the annotated figure above. Claim 1 further calls for "a plurality of exit control structures provided in the second transparent substrate." Applicants understand that the Office has interpreted the lenses of Figure 20 of *Koyama* to be the plurality of exit control structures.

Claim 1 additionally calls for each exit control structure to have "a base associated with the first surface of the second transparent substrate." As shown in the annotated figure above, the "exit control structures" (according to the Office's interpretation) are not associated with the first surface of the second transparent substrate. Claim 1 defines the first surface of the second

transparent substrate as facing the first surface of the first transparent substrate. Therefore, the “exit control structures,” as interpreted by the Office, are associated with the *second* surface of the second transparent surface and fail to meet the claimed limitation. For at least this reason, the anticipation rejection should be withdrawn.

Further, Claim 1 calls for each exit control to form a “collimating structure.” As is understood by one of ordinary skill in the art, light collimation is a process of narrowing a given angular distribution of a light source. For example, Figure 9B of the present application illustrates one embodiment of a collimating device, wherein light from a source enters the device from a plurality of angles. The light collimator of Figure 9B collimates the light such that all light emerges from the collimator at substantially the same angle.

Figure 20 of *Koyama* does not illustrate a collimating structure. In fact, *Koyama* teaches that light first travels through the lenses (i.e., the elements the Office has characterized as the “exit control structures”), which focuses the light such that it enters the optical fibers (i.e., the elements the Office has characterized as the “wave guide structures”). See col. 12, lines 34-39. Because this is the only path of travel disclosed by *Koyama*, it fails to teach each and every limitation of the claim. None of the other embodiments of *Koyama* disclose this missing limitation. For at least this reason, the anticipation rejection should be withdrawn.

*Koyama* also fails to teach that the device of Figure 20 can be used in the manner described in the Office Action. In other words, there is no teaching that “light emanating from a first direction facing the second surface of the *first* transparent substrate is collimated as it exits adjacent collimating structures.” *Koyama* only teaches that light emanates from a first direction facing the second surface of the *second* transparent substrate. See col. 12, lines 27-39. Moreover, even if the device illustrated in Figure 20 could be used in reverse, there is no indication that the lenses would collimate the light. The other disclosed embodiments of *Koyama* fail to supply this missing limitation. Therefore, for at least this reason, the anticipation rejection should be withdrawn.

Claim 2, in addition to the limitations of Claim 1, calls for the wave guides and the exit control structures to be contiguous. *Koyama* fails to disclose this limitation. Figure 20 clearly illustrates that the “wave guide structures” and the “exit control structures” (as identified by the

Office) are separated. *Koyama* does not otherwise disclose an embodiment having contiguous structures. For at least this reason, the anticipation rejection of Claim 2 should be withdrawn.

#### **REJECTIONS UNDER 35 U.S.C. § 103(a)**

Regarding claims 5 and 6, Applicants respectfully assert that the Office has not yet made out a *prima facie* case of obviousness. In order to rely on a reference as a basis for a rejection, the reference must teach all of the claim limitations. (MPEP § 2143.03 citing *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974)).

The Office rejected claims 5 and 6 as unpatentably obvious over *Koyama* alone. Claim 5, among other things, claims that “the first and second transparent substrates are constructed of a polymer.” The Office concedes that *Koyama* fails to teach this limitation, but appears to take “Official Notice” (or “Judicial Notice”) that polymer substrates are well known in the art and are known for being inexpensive and easy to manufacture. *See* MPEP § 2144.03.

Although Applicants recognize that polymer substrates may be well known in the art, Applicants note that *Koyama* is directed to a “method of changing the surface of a glass substrate containing silver, by using a laser beam.” The disclosed method appears to be solely used with glass substrates and Applicants assert that it is not common knowledge or well known in the art to change the surface of a polymer substrate by using a laser, as in the method disclosed in *Koyama*. Therefore, Applicants request that the Office provide specific factual findings predicated on sound technical and scientific reasoning to support its conclusion of common knowledge. *See* MPEP § 2144.03 (citing *Soli*, 317 F.2d 941, 946, 37 USPQ 797, 801 (CCPA 1963); *Chevenard*, 139 F.2d 711, 713, 60 USPQ 239, 241 (CCPA 1943)).

Claim 6, among other things, calls for the index of refraction of the wave guide structures to be generally the same as the index of refraction of the exit control structures. The Office concedes that *Koyama* fails to expressly teach this limitation, but states that it would have been obvious to employ a waveguide structure having generally the same index of refraction as the exit control structures, because discovering an optimum value of a result effective variable involves only routine skill in the art. However, the Office has interpreted the optical fibers of *Koyama* to be waveguide structures and the lenses of *Koyama* to be exit control structures. In

the context of *Koyama* (regardless of the context of the claimed invention), it cannot be fairly said that the optimum value of indexes of refraction for the optical fibers and the lenses would be the same.

The lenses of *Koyama* are designed to focus light such that it converges and enters the optical fibers. *See* col. 12, lines 34-39. Although *Koyama* is silent as to the purpose of the optical fibers, optical fibers are generally used to transmit light along a predetermined path via total internal reflection. To achieve the disparate function of focusing light (by the lenses) and transmitting light via total internal reflection (by the optical fibers), the optimum value of the index of refraction of the lenses would be different from the optimum value of the index of refraction of the optical fibers. Therefore, there is no motivation to modify the device of *Koyama* as the Office proposes, and the obvious-type rejection of Claim 6 should be withdrawn for at least this reason.

#### **NEW CLAIMS**

Applicant submits two new independent claims and three additional dependent claims which cover subject matter directed to the elected Group I and are patentable over the prior art of record. These claims introduce no new subject matter.

#### **ALLOWABLE SUBJECT MATTER**

Applicants wish to thank the Examiner for recognizing the allowable subject matter of claims 7-17. Because claims 1-6 are allowable for at least the above stated reasons, Applicants believe claims 1-17 are in condition for allowance.

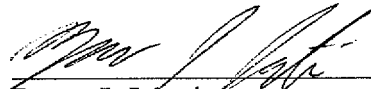
### CONCLUSION

Applicant, intending to be completely responsive, believes that the remarks presented above resolve all outstanding issues on the above-referenced application. Accordingly, the application is believed to be in condition for allowance. Early notice thereof is earnestly solicited. Applicant appreciates the Examiner's attention to this matter. If additional fees are due, please charge any additional fees or credit any overpayments to Deposit Account **02-2051** designating Docket No. **25762.35**.

Respectfully submitted,

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